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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/530,099	04/25/2000	OSAMU YOKOYAMA	105928	1092

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OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER	
JORGENSEN, LELAND R	
ART UNIT	PAPER NUMBER
2675	18

DATE MAILED: 03/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/530,099	YOKOYAMA ET AL.	
	Examiner	Art Unit	
	Leland R. Jorgensen	2675	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *21 - 27 and 29 - 49* is/are pending in the application.

4a) Of the above claim(s) *1 - 20 and 28* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *21 - 27 and 29 - 49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 April 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *18*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, 1) the distance P in the common plane between center of adjacent organic electroluminescent elements; 2) the distance D being a distance between each organic electroluminescent and a display surface of a display element; 3) the length in the common plane for each organic electroluminescent element; and 4) the difference of P and the length of the organic element being separated must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 21 – 27 and 29 – 49 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the

relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Applicant amended independent claims 21, 30, 34, 40, 46, and 47 to add "each organic electroluminescent element having a length in the common plane, the organic electroluminescent elements being separated from each other by a difference of P and the length." This limitation is not taught in the specification. All other claims are dependant on claims 21, 30, 34, 40, 46, or 47.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 21, 22, 25 - 27, 29, and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Littman et al., USPN 5,688,551, in view of Sano et al., USPN 5,779,937, and Lengyel, USPN 5,754,262.

Claim 21

Littman teaches a light source comprising a plurality of organic electroluminescent elements [B, G, R,] arrayed in a common plane parallel to a support surface of a substrate 110. Littman col. 3, lines 27 – 54; col. 4, lines 25 – 33; and figures 1 and 2. Although, Littman teaches that the plurality of organic electroluminescent elements emits light independently, it is also inherent that Littman's array can emit light simultaneously. Littman, col. 2, line 62 – col. 3,

line 25. Littman teaches distance P [pitch] between each adjacent organic electroluminescent elements as small as a few microns. Littman, col. 1, lines 33 – 35; and col. 5, lines 32 – 36. Littman teaches a pitch as high as 100 pixels per millimeter. Littman, col. 3, lines 61 – 63.

Littman does not teach a display element nor a distance D between the display element and the organic electroluminescent element. Littman does not specifically teach that plurality of organic electroluminescent elements emits light simultaneously.

Sano teaches an organic electroluminescent device to backlight a display element. Sano, col. 1, lines 44 – 51; col. 2, lines 12 – 16; and col. 3, lines 19 – 22. When used as a backlight, the plurality of organic electroluminescent element emits light simultaneously. Sano, col. 2, lines 3, lines 19 – 22; and col. 4, lines 9 – 26.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the use of an electroluminescent device as a backlight as taught by Sano with the light source of Littman. Sano invites such combination by teaching, "Further, it is also considered that the organic EL device is utilized as a backlight of a liquid crystal display device or the like because it can surface-emit light at a low voltage." Sano, col. 1, lines 48 – 51.

Neither Littman nor Forrest teach a relationship between D and P being such that D is 10 times P or more.

Lengyel teaches an daylight readable liquid crystal display having a display element 103 and a backlight assembly 103. Lengyel teaches a separation 110 between the display element and the backlight assembly of about 1mm to about 5 mm. Lengyel, col. 5, lines 24 – 49; and figure 1. Thus, it is inherent that D, the separation 110 as taught by Lengyel would be 10 times

or more than the distance P, as taught by Littman, in a combined display device of Lengyel and Littman.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the backlight assembly of Lengyel with the light source of Littman to produce a daylight readable liquid crystal display having a backlight assembly of organic electroluminescent elements. Lengyel invites such combination by teaching,

> This invention relates to a display device for displaying images, and more particularly to a liquid crystal display device for generating and displaying images having sufficient contrast to be easily seen in bright daylight.

Lengyel, col. 1, lines 9 – 13. Lengyel adds,

> Therefore, there is currently a need for an LCD which is easily readable in daylight and which is usable over a wide temperature range in direct sunlight.

Lengyel, col. 1, lines 65 – 67. Lengyel then adds,

> A physical separation is preferably provided between the backlight and the display element. The physical separation preferably permits a heat conducting medium to remove heat from the back surface of the display element. This reduces the affects of thermal loading from the backlight assembly.

Lengyel, col. 3, lines 48 – 52. Lengyel invites consideration of different types of backlights by teaching,

> However, any conventional light source having sufficient brightness and similar emissive spectra may be used, such as a conventional fluorescent light fixture, a conventional incandescent light fixture, a halogen light fixture, or any other light source.

Lengyel, col. 4, lines 39 – 44.

Claim 22

Sano teaches that the plurality of organic electroluminescent elements emit light of one primary color. Sano, col. 2, lines 12 – 41.

Claim 25

It would have been obvious to one of ordinary skill in the art at the time of the invention to array the organic electroluminescent elements one-dimensionally on the substrate to provide a display section to form letters and numbers.

Claim 26

It would have been obvious to one of ordinary skill in the art at the time of the invention to array the organic electroluminescent elements two-dimensionally on the substrate to give a display area having both a width and a direction.

Claim 27

Sato et al. teaches a display device for illuminating a display element. Sato, col. 1, lines 44 - 51. See also Lengyel, col. 1, lines 9 – 12; and figure 1.

Claim 29

Sato teaches that the display element is a liquid crystal display element. Sato, col. 1, lines 44 - 51. See also Lengyel, col. 1, lines 9 – 12; and figure 1.

Claim 49

Sano teaches that all of the organic electroluminescent elements on the substrate can emit light simultaneously. Sano, col. 2, lines 12 – 41.

6. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Littman et al., in view of Sano et al. and Lengyel as applied to claim 21 above, and further in view of Nakayama et al., USPN 5,847,506.

Claim 23

Neither Littman, Sano, nor Lengyel teach that the organic electroluminescent elements comprise optical micro-resonators.

Nakayama teaches organic electroluminescent elements that comprise optical micro-resonators. Nakayama, col. 1, lines 49 – 54; col. 3, lines 13 – 23; col. 3, line 61 – col. 4, line 10; and col. 6, lines 42 – 55.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the optical micro-resonators of Nakayama with the light source of Littman, Sano, and Lengyel. Nakayama invites such combination by teaching,

> In view of solving the foregoing problems of the prior arts, it is an object of the present invention to provide an organic light emitting device having improved spectra width and light emitting characteristics.
>
> Another object of the present invention is to provide a substrate plate used for an organic light emitting device.

Nakayama, col. 1, lines 37 – 42. Nakayama teaches the following advantages.

> In the organic light emitting device of the present invention, the light micro-resonator can be accomplished therein in the way that the semi-transparent reflective film is place between the transparent electrode and the substrate plate and the optical distance between the reflective film and the rear electrode is made equal to or an integer multiplication of the emitted light wavelength. The micro-resonator can make narrow the half-width of the emitted light spectra. Also, the micro-resonator can increase the light emission efficiency, generate the coherent light, and improve the light emission characteristics.

Nakayama, col. 3, lines 13 – 23.

7. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Littman et al., in view of Sano et al. and Lengyel as applied to claim 21 above, and further in view of Shioya et al., USPN 6,091,382.

Claim 24

Littman teaches that the organic electroluminescent elements are formed on the substrate at the intersections of an electrode formed in a striped pattern in a first direction and an electrode formed in a striped pattern in a second direction orthogonal to the first direction. Littman, col. 3, lines 26 – 39.

Littman nor Sano nor Lengyel specifically teach that one electrode is a cathode and the other is an anode.

Shioya teaches organic electroluminescent elements formed on the substrate at the intersections of an anode [striped anode electrodes 106] formed in a striped pattern in a first direction and a cathode formed [striped cathode electrodes 103] in a striped pattern in a second direction orthogonal to the first direction. Shioya, col. 10, lines 14 – 24; and figure 10.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the organic electroluminescent elements and the pulse currents taught by Shioya with the light source for the display device as taught by Littman, Sano, and Lengyel. Shioya invites such combination by teaching,

> It is an object of the present invention to provide a display device whose load is small and which performs a proper high time-division display operation with little variation in luminance and little crosstalk among pixels, and to realize a high-resolution, large screen having a high opening ratio and a very low profile.

Shioya, col. 1, line 66 – col. 2, line 4. Shioya invites specifically the combination described by teaching,

> The driving method for the display device of this embodiment has been described above. By using this method, data erase can be arbitrarily performed as well as data write and setting of the data hold time. The driving method of this embodiment is characterized in that driving with a memory function can be performed without crosstalk, obtaining substantially the same effects as those obtained by a liquid crystal display device using TFTs. In addition, since static liquid crystal driving can be performed with a simple matrix electrode structure, high-quality display can be performed.

Shioya, col. 29, lines 40 – 49.

8. Claims 30, 31, 33 - 35, 38, 40, 41, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al., USPN 5,185,712, in view of Shioya et al.

Claim 30

Claim 30 is a display device. Sato teaches a display device comprising a light source [light sources 118R, 118G, and 118B]. The light source(s) illuminates a display element [liquid crystal display panel 110 comprised of sections 111R, 111G, 111B]. Sato, col. 11, lines 54 – 66; and figure 8. Sato, in figure 8, shows the first, second, and third light sources having luminescent regions substantially the same size as those of display areas of the first second, and third display elements, respectively. Sato, figure 8. Sato teaches an optical system [eyepiece 115 or projection lens 104] that enlarges and displays the image combined by the combining optical system. Sato, col. 9, lines 59 – 61; col. 11, lines 50 – 52; and figures 6 and 8.

Sato does not teach that the light sources are organic electroluminescent elements. Nor does Sato teach a pulse current applied to each of the light sources. Although Sato, in figure 8, shows the light sources having a luminescent region substantially the same size as the display elements, Sato does not specifically teach such.

Shioya teaches light sources that are organic electroluminescent elements and a pulse current applied to the light sources. Shioya, col. 1, lines 7 – 24; col. 26, line 56 – 61; col. 29, lines 26 – 39; and figures 32 – 34. Shioya teaches, "The organic EL element for display light has a display area nearly equal in area to the entire emission area of the organic EL element for signal light." Shioya, col. 16, lines 55 – 57.

For the reasons stated in the discussion about claim 24 above, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the organic electroluminescent elements and the pulse currents taught by Shioya with the light source for the display device as taught by Sato.

Claim 34

Claim 34 is a display device. Sato teaches a display device comprising a light source. The light source comprises a first light source 118R that emits light in a red color range; a second light source 118G that emits light in a green color range; and a third light source 118G that emits light in a blue color range. Sato teaches first, second and third display elements [display sections 111R, 111G, and 111B] each illuminated by their corresponding light source. Sato, col. 11, lines 54 – 66; and figure 8. Sato teaches a combining optical system [image light synthesizing element 106] that combines images displayed in the first, second, and third display elements. Sato, col. 11, line 67 – col. 12. line 9; and figure 8. Sato, in figure 8, shows the first, second, and third light sources having luminescent regions substantially the same size as those of display areas of the first second, and third display elements, respectively. Sato, figure 8. Sato teaches an optical system [eyepiece 115 or projection lens 104] that enlarges and displays the image

combined by the combining optical system. Sato, col. 9, lines 59 – 61; col. 11, lines 50 – 52; and figures 6 and 8.

Claim 40

Claim 40 is a display device. Sato teaches a display device comprising a light source. The light source comprises a first light source 118R that emits light in a red color range; a second light source 118G that emits light in a green color range; and a third light source 118G that emits light in a blue color range. Sato teaches first, second and third display elements [display sections 111R, 111G, and 111B] each illuminated by their corresponding light source. Sato, col. 11, lines 54 – 66; and figure 8. Sato teaches a combining optical system [image light synthesizing element 106] that combines images displayed in the first, second, and third display elements. Sato, col. 11, line 67 – col. 12. line 9; and figure 8. Sato, in figure 8, shows the first, second, and third light sources having luminescent regions substantially the same size as those of display areas of the first second, and third display elements, respectively. Sato, figure 8. Sato teaches an optical system [eyepiece 115 or projection lens 104] that enlarges and displays the image combined by the combining optical system. Sato, col. 9, lines 59 – 61; col. 11, lines 50 – 52; and figures 6 and 8.

Sato does not specifically teach that the display element illuminated by the light combined by the combining optical system.

It would have been obvious to one of ordinary skill in the art at the time of the invention to illuminate the display element by the light combined by the combining optical system. Such system would allow a simpler system to drive only one display rather than three and would result

in a smaller and less expensive display. Sato invites such consideration of alternative arrangements by teaching,

> The present invention has been made in consideration of such a situation, and has as its object to provide a liquid crystal viewfinder which allows easy arrangement of a liquid crystal panel, can increase the resolution, and can decrease the protrusion height from an image pick up apparatus.

Sato, col. 2, lines 14 – 19. Sato teaches as a variation of certain embodiments that one liquid crystal display and invites one to consider numerous arrangements of the display.

> In the above-described embodiment, the display sections 111R, 111G, and 111B for respectively displaying red, green, and blue images are formed on the single liquid crystal display panel 110. However, the display sections 111R, 111G, and 111B may be formed as separate liquid crystal display panels. In addition, these display sections 111R, 111G, and 111B are not limited to a liquid crystal display panel, and may be formed as a CRT or the like. Furthermore, the image light synthesizing element 106 is not limited to the dichroic prism obtained by bonding four prisms together, but may be constituted by an X type dichroic prism obtained by combining dichroic mirrors in the form of the letter "X".
>
> In the above-described embodiment, a display apparatus for synthesizing the red, green, and blue image light beams A_R, A_G, and A_B from the three display sections 111R, 111G, and 111B into one full-color image light beam A_{RGB} is exemplified. It is apparent that the present invention can be applied to various display apparatuses, e.g., a display apparatus wherein each of the display sections 111R, 111G, and 111B in the above embodiment is divided into two display sections for respectively displaying one and the other halves of an image, and red, green, and blue image light beams from these pairs of display sections, i.e., a total of six display sections are synthesized into on full-color image light beam, and a display apparatus wherein a display section for displaying an image or images of one or two of red, green, and blue, and a display section for displaying an image or image of the other two or one colors are respectively arranged at the positions of the green image display section 111G and of the red or blue image display section 111R or 111B, and the respective color image light beams from these two display sections are synthesized into one full-color image light beam.

Sato, col. 12, line 57 – col. 13, line 24. Sato concludes,

> However, the present invention can be applied to any liquid crystal display apparatus as long as it has three display sections 215a, 215b, and 125c

> corresponding to red, blue, and green arranged on the same plane. In addition, the present invention is not limited to the above-described embodiments. Various changes and modifications can be made within the spirit and scope of the invention.
>
> Additional advantages and modifications will readily occur to those skilled in the art. Therefore, the invention in its broader aspects is not limited to the specific details, and representative devices, shown and described herein. Accordingly, various modifications may be made without departing from the spirit or scope of the general inventive concept as defined by the appended claims and their equivalents.

Sato, col. 14, lines 23 – 38.

Claims 31, 35, and 41

Both Sato and Shioya teach that the display element is a liquid crystal display element. Sato, col. 11, lines 54 – 66. Shioya, col. 26, line 56 – 61.

Claims 33, 38, and 44

Shioya teaches that the organic electroluminescent elements have micro-resonator structures. Shioya, col. 26, lines 38 – 55.

9. Claims 32, 36, 37, 39, 42, 43, and 45 - 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al in view of Shioya et al. as applied to claims 30, 43, or 40 above, and further in view of Forrest et al., UPSN 5,707,745.

Claims 32, 36, and 42

Shioya teaches both pulse width and pulse height (peak current) modulation to control the display element. Shioya, col. 29, lines 26 – 28.

Neither Shioya nor Sato specifically teach a pulse current to adjust the luminance of the light source.

Forrest teaches pulse width modulation to adjust the luminance of organic electroluminescent elements. Forrest, col. 14, lines 58 – 66.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the pulse width modulation to adjust the luminance of the organic electroluminescent elements as taught by Forrest with the display device as taught by Shioya and Sato. Forrest invites such combination by teaching the following objects.

> It is an object of the present invention to provide a multicolor organic light emitting device employing several types of organic electroluminescent media, each for emitting a distinct color.
>
> It is a further object of this invention to provide such a device in a high definition multicolor display in which the organic media are arranged in a stacked configuration such that any color can be emitted from a common region of the display.
>
> It is another object of the present invention to provide a three color organic light emitting device which is extremely reliable and relatively inexpensive to produce.
>
> It is a further object to provide such a device which is implemented by the growth of organic materials similar to those materials used in electroluminescent diodes, to obtain an organic LED which is highly reliable, compact, efficient and requires low drive voltages for utilization in RGB displays.

Forrest, col. 2, line 62 – col. 3, line 12. Forrest concludes,

> This device can be used to provide a low cost, high resolution, high brightness full color, flat panel display of any size. This widens the scope of this invention to displays as small as a few millimeters to the size of a building but to a practice limit. The images created on the display could be text or illustrations in full color, in any resolution depending on the size of the individual LED's.

Forrest, col. 15, lines 59 – 65.

Claims 37 and 43

Shioya teaches both pulse width and pulse height (peak current) modulation to independently control each display element to adjust the color of the display image. Shioya, col. 29, lines 26 – 39. Forrest teaches that different combinations or individual electroluminescent elements can be controlled to obtain a desired color. Forrest, col. 5, lines 21 – 25.

Claims 39 and 45

Forrest teaches each of a plurality of electroluminescent elements emitting light simultaneously. Forrest, col. 6, lines 27 – 44.

Claim 46

Sato teaches a display device comprising a light source [light sources 118R, 118G, and 118B]. The light source(s) illuminates a display element [liquid crystal display panel 110 comprised of sections 111R, 111G, 111B]. Sato, col. 11, lines 54 – 66; and figure 8. Sato teaches an optical system [eyepiece 115 or projection lens 104] that enlarges and displays the image combined by the combining optical system. Sato, col. 9, lines 59 – 61; col. 11, lines 50 – 52; and figures 6 and 8.

Forrest teaches a light source comprising a plurality of organic electroluminescent elements [LED 20, 21, 22] arrayed on a same substrate [glass substrate 37]. Forrest, col. 2, lines 62 – 65; col. 3, line 66 – col. 4, line 6; and col. 5, lines 4 – 16. The plurality of organic electroluminescent elements emitting light simultaneously. Forrest, col. 6, lines 28 – 31. Forrest teaches pulse width modulation to adjust the luminance of organic electroluminescent elements. Forrest, col. 14, lines 58 – 66.

Shioya teaches light sources that are organic electroluminescent elements and a pulse current applied to the light sources. Shioya, col. 1, lines 7 – 24; col. 26, line 56 – 61; col. 29, lines 26 – 39; and figures 32 – 34.

Claim 47

Sato teaches a display device comprising a light source. The light source comprises a first light source 118R that emits light in a red color range; a second light source 118G that emits light in a green color range; and a third light source 118G that emits light in a blue color range. Sato teaches first, second and third display elements [display sections 111R, 111G, and 111B] each illuminated by their corresponding light source. Sato, col. 11, lines 54 – 66; and figure 8. Sato teaches a combining optical system [image light synthesizing element 106] that combines images displayed in the first, second, and third display elements. Sato, col. 11, line 67 – col. 12. line 9; and figure 8. Sato, in figure 8, shows the first, second, and third light sources having luminescent regions substantially the same size as those of display areas of the first second, and third display elements, respectively. Sato, figure 8. Sato teaches an optical system [eyepiece 115 or projection lens 104] that enlarges and displays the image combined by the combining optical system. Sato, col. 9, lines 59 – 61; col. 11, lines 50 – 52; and figures 6 and 8.

Forrest teaches a light source comprising a plurality of organic electroluminescent elements [LED 20, 21, 22] arrayed on a same substrate [glass substrate 37]. Forrest, col. 2, lines 62 – 65; col. 3, line 66 – col. 4, line 6; and col. 5, lines 4 – 16. The plurality of organic electroluminescent elements emitting light simultaneously. Forrest, col. 6, lines 28 – 31. Forrest teaches pulse width modulation to adjust the luminance of organic electroluminescent elements. Forrest, col. 14, lines 58 – 66.

Shioya teaches light sources that are organic electroluminescent elements and a pulse current applied to the light sources. Shioya, col. 1, lines 7 – 24; col. 26, line 56 – 61; col. 29, lines 26 – 39; and figures 32 – 34.

Claim 48

Forrest teaches each of a plurality of electroluminescent elements emitting light simultaneously. Forrest, col. 6, lines 27 – 44.

Response to Arguments

10. The prior office action stated that it is inherent that the separation 110 in Lengyel (analogous to D) would be 10 time or more than the distance (between the elements as analogous to P) shown in Littman. Applicants responded by arguing that that Littman and Sano teach dimensions related to the pixels that are orders of magnitude less than provided in the specification, thus teaching away from combining with Lengyel. In fact, this is the heart of the problem in the claims. This distance between pixels on a display screen are in fact orders of magnitude less than any distance between the pixels and the display surface of the display. For the reasons stated above, it would have been obvious to combine Lengyel with Littman and Sano.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leland Jorgensen whose telephone number is 703-305-2650. The examiner can normally be reached on Monday through Friday, 7:00 a.m. through 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven J. Saras can be reached on 703-305-9720.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office, telephone number (703) 306-0377.

lrj

STEVEN SARAS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600